Rabbit GPS User Manual

Product features:

Rabbit GPS adopts ublox brand GPS module which is regarded as the best for the performance.High accuracy, low drifting, stable and high price ratio.

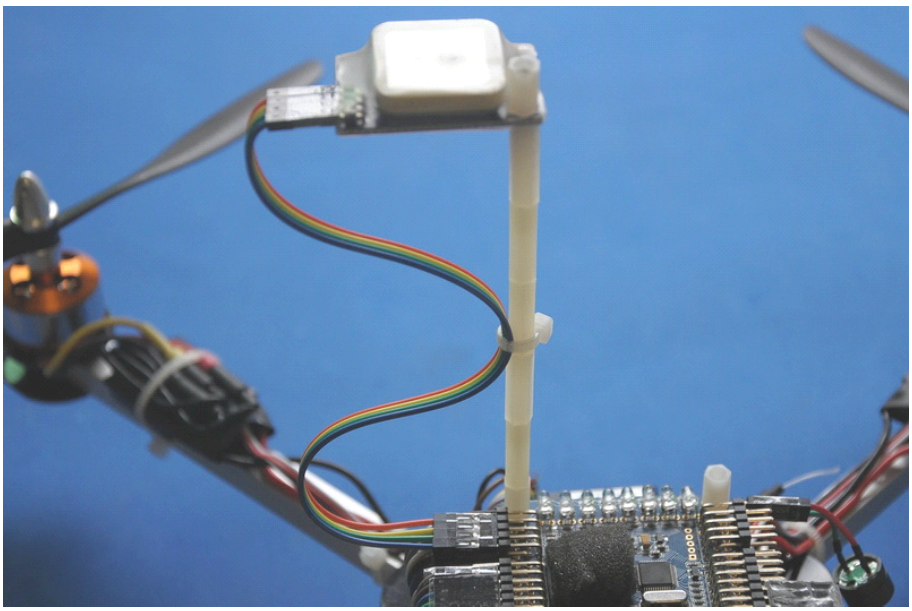
Installation prerequisite:

First of all, this Rabbit GPS needs a very stable and reliable aircraft debugged.The throttle has not obvious vibration all range in the self stable mode. Rack, motors, propellers and all the connecting plug cables should be firmly fixed to prevent loss and poor contact.And you should know fairly well the battery flight time.

Secondly,flight controller must be installed with function expansion board and the magnetic sensor and pressure gauge must be working! There are lots of test methods, the adjustable tool can be the first, connect the flight controller to the computer with USB cable, open the adjustable tool, click the display data, rotate the FC horizontally, observe if the magnetic angle changes is the same? Mainly see the flight controller relative angle is how much when the magnetic angle is 0 degree, 90 degree, 180 degree, 270 degree,if it is close to 90 degree, and if the error is too large,it needs recalibrate.You can also open CF function to flight and test if the magnetic sensor is normal; observe if the barometric height datas have little and slow value of change around one point, if it doesnot change or change quickly and the range is greater than 20 decimeters which means the barometer is not working properly. Also you can flight in the outdoors to test height lock effect. If there is no problem for the height lock,CF and heading lock test, then the Rabbit GPS can be installed.

Installation:

Fix the rabbit GPS high with nylon pillar, also you can use in other ways, GPS ceramic antenna faces up, GPS and Rabbit Flight Controller should keep a distance for more than 10cm.



Connecting:

The rabbit GPS is connected to the flight controller pinout with 4Pin Dupont line as above diagram: VCC for anode, GND for cathode, the red line in the figure for +5V, deep blue line connects to the cathode (GND), two middle lines are signal lines, and the anode and cathode must not be reversed. Fix the connecting cables firmly and avoid to be in the loose.

Power on:

Power the flight controller whose marquee light will be on, and the LED on GPS board also lights up, which means the power is normal.

Usage:

Firstly connect the flight controller to the computer with USB calbe, open the adjustable tool, GPS option is on in the selection of sensor area. And then press and return, loose rod and point lock,automatic landing are respectively assigned to your own switching channel. Finally, remember the normal work of Rabbit GPS needs the cooperation of self stability mode, height lock, magnetic sensor (CF and heading lock cannot be open), please make these functions have appropriate switch!

Function explanation:

Press and return, when properly connected, choose the GPS function and receive a valid signal, the flight control will remember the unlocking position. When it takes off from unlocking point, open the press and return switch,the FC can automatically control the direction of flight and fly back the take-off point. The height can be controlled by throttle yourself during the return, and still have the loose rod and point lock function.However the throttle is particularly sensitive for the pressure height lock, please slowly regulate, don't operate throttle lever violently. After return if you choose the automatic landing and when it return to the take-off point within10 meters, start to land automaticly.

Automatic landing, with the height lock function and make it on, when turn on the automatic landing switch it start to land automaticly from the sky.A barometer supports landing above 2 meters, what supports landing below 2 meters is ultrasound module. In case of emergency, the throttle can still be used, but push up or down the height,automatic landing will continue. If you don't play solo automatic landing function, it is suggested that you set the automatic landing and press & return in the same switch position, so that it begins to land automaticly when the flight controller returns to the unlock and take-off place (home point) in the range of 10 meters.

Loose rod and point lock, Rabbit GPS works normally and open the loose rod and point lock function, any time when you stop operating the remote control aileron and elevator,the flight controller will be hovering automaticly in the current position, the horizontal position and the height position can be adjusted respectively. If you open the press & return function at the same time which has the priority.

Searching satellite signals outdoors:

To be more precise location,the GPS should be used in the open air.If there are buildings or other blocks around, even it can search satellite signals and get location,it is unstable and the flight controller will move in a wide range. When the power on in the outdoors, the FC will have marquee lights and come into self check, other self check you can have reference in FC user manual. GPS can be instructed by the eighth LED light, generally the searching time is within 1 minute, If it is not so long time to the last power time, the satellite signals searching can be faster! When the flight controller have checked that GPS received 6 satellites and got location, it will have a sound of "Beep-", and the GPS self-checking pass.If other equipments self-checking is completed,the FC will be in the state of breathing lights.At this time, operate the rudder to the left, you can switch LED display modes, switch the display between breathing lights and satellite numbers. The satellite number searched is bright light number plus 5, it shows 13 satellites at most. Generally there is less GPS satellites number when it just power on,and the location is also not so accurate, flight controller will move in a wide range, but these will be greatly improved waiting for a while.

Take off and return:

When the flight controller self-checking pass, it can take off. Before fly far away at the first time, you must have several tests in close distance to be familiar with the GPS functions, also check the stability and reliability of all the equipment and how far the capacity of battery can be for. It is suggested that it donot fly far with big wind, the flight cotroller return speed will be slow, maybe the return time will be beyond your battery time. In the wind the return speed can be accelerated, the FC return to the take-off point and fly too much, do not be in panic, it will automatically correct and back to the take-off point, or you can manually assist to correct the position, but do not operate the throttle in a panic. In order to avoid this situation, it is advised that the player stands back 5 to 10 meters to the take-off point.

Special notes:

The normal work of GPS module has a great relationship with GPS signal, any weather changes are likely to affect the GPS signal intensity, thus influent the normal work of the GPS module, especially during the flight. Due to climate change, building block, the difference of terrain,it is likely to lose the satellite signals and affectthe normal work of the GPS module. In addition, in the narrow buildings even though with stronger signal, it can receive enough satellites to unlock, however, most of the satellite signal is reflected signal, the location accuracy is poor, also can cause the flight controller drift around and move in a wide range. Therefore, you players should consider all kinds of factors on GPS signal influence and keep safety first, effectively prevent all sorts of accidents. We do not bear any responsibility for various accidents or loss of property during the flight process.

In addition, it had better avoid violence flight with the GPS module, especially violent landing or crashing. As the dramatic impact may cause damage to GPS module.